

WHAT IS CLAIMED IS:

1. A recovery circuit comprising:

at least one current driver;

5 at least one first pass gate being connected in series with  
said current driver;

at least one second pass gate being connected to a ground;

and

at least one recovery element, said at least one recovery  
10 element being operatively connected to a wearout sensitive  
element.

2. The recovery circuit of claim 1, wherein said first  
and second pass-gate are closed when a voltage signal activates  
15 said current driver so that current delivered by said current  
driver, passes through said recovery element to increase the  
temperature of said wearout sensitive element.

3. The recovery circuit of claim 2, wherein said one  
20 wearout sensitive element is a transistor.

4. The recovery circuit of claim 1, wherein said one  
wearout sensitive element is a MOSFET.

5. The recovery circuit of claim 2, wherein said one recovery element is a polyresistor.

5 6. The recovery circuit of claim 1, wherein said at least recovery element is external to said wearout sensitive element.

7. The recovery circuit of claim 1, wherein said at least recovery element is integral with said wearout sensitive  
10 element.

8. The recovery circuit of claim 1, wherein said at least recovery element allows self-heating of said wearout sensitive element.

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9. The recovery circuit of claim 8, wherein said self-heating is localized and can be implemented at any time for partial or full recovery of said wearout sensitive element as appropriate in response to particular wearout degradation.

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10. The recovery circuit of claim 1, wherein the recovery circuit can be implemented to any of a variety of circuit applications.

11. A method for recovery of a wearout sensitive circuit comprising the steps of:

5       operatively implementing a recovery circuit to a specific wearout sensitive circuit and/or a specific wearout sensitive circuit element thereof;

operating said specific wearout sensitive circuit; and

10       activating said recovery circuit during operative use when said specific wearout sensitive circuit and/or said specific wearout sensitive circuit element is degraded a predefined amount.

15       12. The method of claim 11, wherein said specific wearout sensitive circuit is operated so that components of said recovery circuit are floating.

20       13. The method of claim 12, further comprising a step of determining which specific wearout sensitive circuit element is sensitive to which specific wearout mechanism.

14. The method of claim 13, further comprising the step of quantifying an appropriate bake temperature for an appropriate wearout recovery.

5        15. The method of claim 11, wherein said recovery circuit is activated by a voltage signal.

16. The method of claim 15, further comprising the step of deactivating said degraded specific wearout sensitive circuit  
10 and/or said wearout sensitive wearout element.

17. The method of claim 16, further comprising the step of driving current through said recovery circuit to allow localized heating of said specific wearout sensitive circuit and/or said  
15 specific wearout sensitive circuit element.

18. The method of claim 17, further comprising the step of locally heating said specific wearout sensitive circuit and/or said specific wearout sensitive circuit element to a predefined  
20 bake temperature.

19. The method of claim 18, wherein said specific wearout sensitive circuit and/or said specific wearout sensitive circuit

element is/are locally heated for an appropriate amount of time to achieve a desired level of circuit recovery.

20. The method of claim 19, further comprising the step of  
5 deactivating said recovery circuit and reactivating said  
recovered specific wearout sensitive circuit and/or said  
recovered specific wearout sensitive circuit element.